Garden of Eden Tour

1. Tour usually available Memorial Day to Labor Day and October through April. Tour lasts: 45 minutes to one hour.
2. Distance walked: 1/4 mile, including distance to and from elevator. Generally four stops in cave.
3. Stairs encountered: approximately 150, about half up and half down.
4. Group size limit: 25 people.
5. Tour starts at elevator building Memorial Day-Labor Day.

Follow the Garden of Eden Tour signs downstairs, 225 yards to elevator. At other times of the year, tour starts in exhibit room at bottom of stairs. This is a general script of the Garden of Eden Cave Tour. The information that the ranger presents may be in a slightly different order.

The Garden of Eden is one of the rooms along this route. The room was discovered and named on July 7, 1891 by Alvin F. McDonald, a teen-aged son of one of the early developers of Wind Cave. Young McDonald thought that the room had in it every variety of crystal he had previously seen elsewhere in the cave, just like a garden has every variety of flower. Wind Cave offers a wide variety of features.

The ranger will meet the group at the elevator building, and prepare everyone for the tour. There are restrooms located within the building. The journey begins with an eleven story ride down the elevator. If you are among the first people taken into the cave, please wait in the elevator airlock room while the ranger brings in the rest of the visitors.

You are standing within a layer of limestone, the type of rock in which most caves in the world form. The limestone originally formed in shallow tropical sea, from the accumulated shells and internal hard parts of sea life. If you have a flashlight, you may want to look for fossil shells in the lower parts of the ceiling.

The actual passages in the cave, where you now stand, were made by the dissolving of limestone by acid-rich water. Some cave geologists think this water came from above, other geologists say the water rose from below. The type of acid, and its origin are debatable, too. Some geologists offer the opinion that carbonic acid (carbonated water) made the cave, while others believe it was sulfuric acid. One geologist has suggested a combining of acid-rich ground water and salt water from the original ocean formed a very corrosive mixture that easily attacked the limestone. No matter what actually occurred, try to imagine every open space you can now see completely filled with water. We would need a scuba tank to travel through the cave!

The domed ceilings and scalloped walls at the elevator landing are typical features of the higher levels of the cave. Perhaps they were formed by the dissolving action, or perhaps they formed when water levels were lower. One cave geologist believes moist air, evaporating from pools at lower levels, rose through the cave, condensed on the ceilings, and slowly trickled down, carving the scalloped shapes you now see. The geologic story of Wind Cave is very complex, and a variety of geologic processes likely produced the many cave features we see.

Hopefully, you now feel comfortable being in the cave, but if not, please let the ranger know, so she/he will be able to escort you up the elevator.

The path to the next room has both up and down stairs, low ceilings (look for fossils!), and a section of low handrail. The next stop is the Garden of Eden room. See if you can discover boxwork and popcorn. These are cave formations, and their names describe their appearance.

Popcorn forms when tiny drops of water carrying dissolved limestone ooze from tiny pores in the rock. The water loses its acid content to the cave air and tiny crystals of calcite (calcium carbonate) form. This process continues and the small crystals accumulate into rounded clusters. This involves a lot of time. The pull of gravity has little effect; notice the popcorn can grow in any orientation.

The formation of boxwork is very complex and intriguing. It is the abundance and variety of boxwork that makes Wind Cave unique in the world. The thin blades of boxwork are composed of calcite, colored red, orange or brown by traces of iron oxide.

The boxwork represents a network of fractures in the limestone that were filled with calcite crystal. When acid-rich water dissolved limestone to form the cave passageways, the crack filling material, being more chemically resistant to the acid-rich water than the limestone itself, was left behind, standing out in relief.

You might imagine the same effect if you built a wall with large sugar cubes, cementing the sugar cubes in place like bricks. What would happen to the wall of sugar cubes if it was left out in the rain? What would remain?

The ranger may turn out the lights in this room. Be prepared!

From the Garden of Eden, the group will walk under a low ceiling, up a few stairs, then down a long corkscrew stairway of more than 50 stairs. Hold on to the handrail; some stairs are taller than others! Also, be aware of three very low ceilings above these stairs and just beyond their end.

Midway down the stairway, on the right side of the trail, there is a deposit of flowstone. It looks like the rock has indeed flowed, like melted ice cream. The rock is hard, but it glistens with water still trickling over it. The water loses its acid content to the cave air and builds up layers of calcium carbonate, to produce the melted candle look. If a person touches flowstone, finger oils may stop its growth.

Past the bottom of the stairs, the group will stop on a small platform. If there are as many as 25 people in the group, it will be crowded. There are better examples of boxwork here, since the decoration is more abundant in the middle and lower portions of the cave. The long corkscrew stairway you just descended brought the group into the middle level of the cave.

Another obvious feature at this stop is the writing on the wall. In the most prominent "cave graffiti" you can see a list of eight names and a date. These people were in Wind Cave on August

17, 1892. In earlier times, people had different ethics about natural resources, compared to us today. The natural world was to be conquered and mankind felt compelled to leave its mark in the wilderness. People also left their marks in the cave. The early developers took samples of formations from the cave to sell as souvenirs. No doubt, even a hundred years ago, people were impressed by the variety of crystals in this cave. Happily, society has matured a little since those times of exploitation.

The steep aluminum stairway down from this stop leads to the path to be taken out of the cave should both elevators fail. From the bottom of the stairs to the walk-in entrance, a person would have to walk almost 1/2 mile and climb stairs equivalent to a 22 story building! Since elevators were not installed until 1935, that was exactly the path of the cave's visitors on August 17, 1892.

The ranger will lead the group up a stairway from this room. There is a platform for gathering in a large domed-ceiling room part of the way up this stairway. There is a path from this room that leads to most of the wilderness of Wind Cave. Cave explorers cannot wait to leave the safety and comfort of the paved and lighted trails to crawl and climb through the intricate mazes of Wind Cave. It is through the efforts of explorers, who map the cave and record detailed descriptions of the cave, that we get to know and appreciate this cave. They provide us with the basic data we need to plan for proper care of this world class resource. With such a wide variety of features, we need to know more about this cave to keep it protected for the enjoyment of future generations. Thus it is with all of our national park areas.

A very short walk from this room will take the group back to the elevator. Be sure to spend some time looking at exhibits in the visitor center. The original opening to the cave, where the cave was discovered, is about 225 yards from the visitor center, on the side opposite from the elevator building. Please take the opportunity to view this feature.